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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/912,844	07/24/2001	Maximilian A. Biberger	SSI-00501	5915

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HAVERSTOCK & OWENS LLP
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18
EXAMINER

KACKAR, RAM N

ART UNIT	PAPER NUMBER
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1763

DATE MAILED: 08/14/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/912,844

Applicant(s)

BIBERGER ET AL.

Examiner

Ram N Kackar

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1763

-- **Th MAILING DATE of this communication appears on the cover sheet with the correspondence address --**
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 August 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 13 is rejected under 35 U.S.C. 112, second paragraph, as failing to set forth the subject matter which applicant(s) regard as their invention. In this instance claim 1 on which this claim depends recites single mechanical drive to keep the chamber closed and sealed under pressure while this limitation recites an additional mechanical clamp to maintain the chamber under high pressure. This is in obvious conflict with the independent claim 1.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

3. Claims 1, 7-8 and 14 are rejected under 35 U.S.C. 102(a) as being anticipated by Toru Yasuda (JP 2000106358).

Toru Yasuda discloses a high pressure chamber (Abstract and Fig 1 and 2) for processing semiconductor substrates comprising a first sealing surface (191), a platen for holding semiconductor substrates and a second sealing surface (110), single mechanical drive system with hydraulics (111) to close and seal the surface to form a processing chamber around the substrate.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 2-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Toru Yasuda (JP 2000106358) in view of Fujikawa et al (5798126).

Toru Yasuda discloses sealing between the platen and chamber housing but not an O-ring on the first surface (on the chamber housing).

Fujikawa et al teach a high-pressure chamber with several ways of sealing and disclose (Fig 7) two surfaces sealing to each other through spacer (27) having o-ring grooves and seals in both the surfaces.

Therefore it would have been obvious for one with ordinary skill in the art at the time invention was made to have a groove and seal in first surface so as to keep the seal clean.

6. Claims 4-5 and 7- 9 are rejected under 35 U.S.C. 102(b) as being unpatentable over Toru Yasuda (JP 2000106358) in view of Fujikawa et al (US 5979306).

Toru Yasuda discloses sealing between the platen and chamber housing but does not explicitly disclose an O-ring on the platen.

Fujikawa et al disclose a high pressure chamber for processing semiconductor substrates comprising a first sealing surface (Fig 2 -5 upper sealing surface), a platen for holding semiconductor substrates and a second sealing surface (Fig2-5 lower sealing surface), grooves

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and O-ring seal (Fig 2-9) and a mechanical drive mechanism (Fig 1-24) being a piston driven by a compressible fluid (Fig 6-103) and a non compressible fluid (Fig 6-102 and Col 1-line 64-67 and Col 2 – line 46-53) and to close and seal the surface to form a processing chamber around the substrate.

Therefore it would have been obvious for one with ordinary skill in the art at the time invention was made to have a groove and seal in second surface also to ensure good seal between the two surfaces.

7. Claims 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Toru Yasuda (JP 2000106358) in view of Fujikawa et al (5898727).

Toru Yasuda discloses hydraulic mechanism for lifting the platen for sealing but does not disclose the possibility of a motorized actuator.

Fujikawa et al disclose other driving means for a linear actuator, like hydraulic and motorized (Col 6 line 45-56). It is well known that a motorized actuator uses a screw for changing rotary motion to a linear one.

Therefore it would have been obvious for one with ordinary skill in the art at the time invention was made to use hydraulic or motorized actuator with a screw so as to have fast opening and closing operation without jitters.

8. Claims 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Toru Yasuda (JP 2000106358) in view of Fujikawa et al (6077053).

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Toru Yasuda discloses a pressure chamber frame (Fig 1 and 2), and a sealing plate coupled to the hydraulics for supercritical as well as non supercritical processing (Abstract and paragraph 0014).

Toru Yasuda does not expressly disclose the inside of the fluid cylinder to show first fluid cavity defined by the piston body attached to the frame and the piston and the second fluid cavity defined by the piston neck and pressure chamber frame.

It is inherent and obvious to have two fluid cavities in a fluid cylinder, one on the side of the neck and the other on the other side of the piston to be used to move the piston one way or the other using differential pressure.

Fujikawa discloses this in a gas compressor using pistons (Fig 2 – region H being second cavity and behind R5 being first cavity).

Therefore having fluid cavities for hydraulics to operate correctly would have been obvious.

Response to Amendment

Applicant's arguments filed 2/20/2003 have been fully considered and have persuaded to remove the rejections based on Takahashi and Fujikawa et al (5798126), at least for independent claims.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US 6508259 discloses a pressure vessel for supercritical processing (Fig 2) having two parts which open for loading /unloading (Fig 3) and close for pressure processing. After closing with an actuator additional mechanism clamps (Col 7 lines 17-28).

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ram N Kackar whose telephone number is 703 305 3996. The examiner can normally be reached on M-F 8:00 A.M to 5:P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory Mills can be reached on 703 308 1633. The fax phone numbers for the organization where this application or proceeding is assigned are 703 872 9310 for regular communications and 703 872 9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308 0661.

RK

August 11, 2003


GREGORY MILLS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700